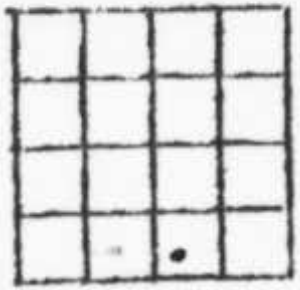
County Holt  sec. 30 T. 62 R. 38

Owner Everitt, J.H. et.al. Elev. 998.2 MGS# 5801

Farm Spring No. 1 TD 2862 Shows - Spls. V

Status Date Completed 7-10-39 Fm@TD Kinnewick

Remarks:

00007
00002

Log of J. H. Everitt, M. J. Lewis, *et al* No. 1 Fred Spring. Location: 330 feet north and 330 feet east of the center of the south line SW 1/4 SW 1/4 SE 1/4 sec. 30, T. 62 N., R. 38 W., Holt County, Missouri, near Mound City. Surface elevation, 998 feet (P.T.). Commenced, 3-7-39, and completed, 1-10-39. Total depth, 2862 feet. Dry and abandoned. Rotary test. Casing record: 8 inch surface pipe set at 234 feet; and set 2541 feet of 5 3/16 inch pipe in order to restore circulation. Contractor: Miles J. Lewis, Houston, Texas.

FORMATIONAL SUMMARY

	Thickness, feet	*Depth, feet*
Pleistocene and Recent Series:		
Surface soil, glacial drift and Pennsylvanian (?)	300	300
Pennsylvanian system:		
Shawnee-Douglas groups (Lecompton and Oread at 300-403 ft.)	260	560
Pedee group	40	600
Lansing-Kansas City groups	310	910
Pleasanton-Henrietta groups	200	1110
Cherokee group	793	1903
Mississippian system:		
St. Louis formation	22	1925
Spergen-Warsaw formations	75	2000
Keokuk-Burlington formations	105	2105
Chouteau formation	75	2180
Kinderhook shale	20	2200
Devonian (?) system (shale)	84	2284
Devonian system	342	2626
Silurian system	170	2796
Ordovician system:		
Maquoketa formation	46	2842
Fernvale formation	10	2852
Kimmswick formation	10	2862, T.D.

SAMPLE LOG

	Thickness, feet	*Depth, feet*
No samples	300	300
Pennsylvanian system:		
Shawnee group:		
Limestone, tan, argillaceous, fossiliferous	6	306
Shale and limestone: shale, gray to dark gray with tan and gray limestone fragments. Residue contains a small amount of silicified tubes	20	326
Limestone (Lecompton), gray and tan, argillaceous, sandy, highly fossiliferous	34	360
Limestone, as above (probably largely recirculated), and gray, fissile, thin-bedded shale with pyrite	10	370
Douglas group:		
Limestone (Oread), light tan and white, fossiliferous. Some gray shale occurs between 380-390 feet. Residue of silicified brachiopod fragments and kaolin balls	33	403
Shale, black, carbonaceous	7	410
Shale, gray with calcareous fossils	10	420
Limestone, nodular, fossiliferous with green shale. Residue contains fossil fragments and a trace of glauconite	10	430
Shale, red	10	440

	Thickness, feet	Depth, feet
Shale, gray with streaks of fine-grained, micaceous sandstone	20	460
Shale and limestone: shale, gray with gray and brown, fossiliferous limestone	10	470
Shale, gray with plant remains and mica. Sandy between 480-510 feet	70	540
Shale, gray with some gray, fossiliferous limestone	10	550
Shale, silty, somewhat calcareous with fine-grained sandstone	10	560
Pedee group:		
Limestone (Iatan), tan, nodular with some fossils, red and green shale, and pyritized fossils	10	570
Shale and sandstone: shale, gray; and sandstone, fine-grained, micaceous.	20	590
Shale, gray	10	600
Lansing-Kansas City groups:		
Limestone, tan to white, dense, fossiliferous with ostracods and brachiopods. Residue contains sand, gray shale and pyritized fossils	40	640
Shale, dark gray to black with limestone, as above	10	650
Limestone, dark gray, argillaceous, fossiliferous. Residue contains some silicified fossil fragments	10	660
Shale, gray and black with some limestone, as above	10	670
Limestone, gray, argillaceous, fossiliferous. Residue contains some tan chert and silicified fusulinids	10	680
Shale, gray, sandy with plant remains	20	700
Limestone, light gray, dense, sparingly fossiliferous with gray, dense, fossiliferous chert	20	720
Shale, gray	10	730
Limestone, white and light tan, sparingly fossiliferous with some gray shale toward the base. Residue contains silicified spines, tubes and fossil fragments	25	755
Shale, black, carbonaceous	5	760
Shale, light green with nodular limestone fragments	10	770
Limestone, white and light tan, dense. Residue contains some fragments of chert and quartz	20	790
Limestone, dark gray, argillaceous with dark gray chert	10	800
Shale, gray with some limestone in lower 10 feet	20	820
Limestone (Winterset), gray, dense, cherty. Residue contains much gray, mottled, fossiliferous, spinose chert	35	855
Shale, black, platy, carbonaceous with limestone, as above	5	860
Limestone (Bethany Falls), light gray, dense, non-cherty with some green and black shale partings and stylolites. Some oolites occur between 870-880 feet	20	880
Shale, black, carbonaceous	5	885
Limestone (Hertha), tan and white, dense, sparingly fossiliferous. Some red and gray shale occurs above 890 feet (possibly recirculated)	25	910
Pleasanton-Henrietta groups:		
Shale, gray, sandy, micaceous with some pyrite and plant remains	30	940
Limestone, gray, argillaceous, highly fossiliferous. Residue contains silicified fossils	20	960
Shale, gray with limestone, as above	10	970
Shale, gray with calcareous nodules and fossils between 980-990 feet	30	1000
Shale, gray, sandy with some red shale at the base	20	1020
Shale, sandy with some brown, fossiliferous limestone	10	1030
Limestone, tan, fossiliferous with some green and gray shale	10	1040

	Thickness, feet	Depth, feet
Limestone, dark gray, argillaceous, fossiliferous with gray, sandy shale	10	1050
Sandstone, fine-grained, angular, sparingly arkosic with some calcareous cement	20	1070
Shale, gray and green with limestone nodules, calcareous fossils and some glauconite	20	1090
Limestone, gray, argillaceous, silty, fossiliferous	15	1105
Shale, black, carbonaceous with limestone, as above	5	1110
Cherokee group:		
Sandstone, much mica and some calcareous cement	10	1120
Shale, gray, micaceous	20	1140
Shale, gray with tan limestone fragments, kaolin and pyritized fossils	10	1150
Sand, fine-grained, micaceous with plant remains and some gray shale	10	1160
Shale, gray, sandy with plant remains, mica and some dark gray to black shale	40	1200
Limestone and shale (Ardmore ?): limestone, brown, fossiliferous, argillaceous. The residue consists of gray shale, silicified spines and worm casts	15	1215
Shale, black, carbonaceous with some gray shale and limestone, as above	5	1220
Sandstone, fine-grained, argillaceous with pyrite and calcareous cement	10	1230
Shale, gray with plant remains and spherulites of siderite	45	1275
Shale, black and gray with coal beds near 1280-1300 feet	25	1300
Shale, gray	25	1325
Sand, medium-grained, angular, slightly arkosic, becoming more coarse-grained toward the base	30	1355
Shale, gray with siderite spherulites. Much siderite occurs about 1395-1410 feet	75	1430
Sand, medium-grained, angular with mica	10	1440
Shale, gray, sandy	20	1460
Shale, gray	20	1480
Shale, black, slaty, carbonaceous	20	1500
Sand, medium-grained, sub-angular, highly micaceous with some carbonized plant remains. This interval grades below 1530 feet into very coarse-grained, sub-angular, slightly arkosic sandstone	110	1610
Sand, coarse, as above, wtih black and gray shale	30	1640
Sand, coarse, sub-rounded	10	1650
Shale, gray and dark gray to black, thin-bedded	30	1680
Shale, dark gray to black interbedded with fine-grained, micaceous, thin-bedded sandstone	30	1710
Sandstone, medium-grained, micaceous with plant remains	10	1720
Shale, black and dark gray, platy, thin-bedded	30	1750
Shale, as above, interbedded with fine-grained, thin-bedded, sandstone lenses. Some coarse sand (which may be recirculated) occurs between 1780-1790 feet	60	1810
Shale, dark gray to black, thin-bedded	30	1840
Shale, as above, with thin lenses of fine-grained sandstone	20	1860
Shale, black and gray, as above	20	1880
Sandstone, fine-grained with black, platy, carbonaceous shale	23	1903
Mississippian system:		
St. Louis formation:		
Limestone, tan, dense to lithographic with some pyrite. Oolitic limestone occurs between 1910-1915 feet. The residue, small, of sand grains, quartz rosettes and some small, doubly terminated quartz crystals	22	1925

	Thickness, feet	Depth, feet
Spergen-Warsaw formations:		
Dolomitic limesetone, tan, fine-grained, crystalline, slightly porous with quartzose and chalcedonic, pink and white chert. The residue consists of chert, as described above, with silicified spines and pyrite ..	25	1950
Limestone, tan and gray, crystalline, cherty, fossiliferous (many crinoids). The residue consists of gray and white, mottled, fossiliferous chert	50	2000

NOTE: The base of the Warsaw is questionable due to the large amount of recirculated limestone and chert.

Keokuk-Burlington formations:		
Limestone, white and light tan, crystalline, crinoidal, cherty. The residue contains white, dense and porous, crinoidal chert	45	2045
Chert and dolomite: chert, white, semi-translucent, dense with coarsely crystalline, secondary dolomite. Sample looks as though it were from a filled crevice or veinlet of secondary dolomite and chert	5	2050
Limestone, coarsely crystalline, crinoidal, cherty. Dolomitic beds of white, fine-grained, crystalline dolomite occcur from 2060-2070 feet and 2090-2105 feet. Residue consists of white, tan and light gray, porous to dense, crinoidal chert	55	2105
Chouteau formation:		
Limestone and dolomitic limestone: limestone, light to medium gray and earthy gray, dense with some brachiopod fragments; and dolomitic limestone, fine-grained crystalline. Residue contains some gray chert but is largely composed of recirculated material	25	2130
Limestone, light tan, oolitic. Oolites rounded, medium sized and cemented into a limestone which breaks across the oolite	10	2140
Dolomitic limestone, gray, fine-grained, argillaceous ...	5	2145
Limestone, tan and gray, dense. Residue, small, of chiefly, recirculated material	35	2180
Kinderhook shale (undifferentiated):		
No samples	5	2185
Shale, gray and green	15	2200
Devonian system (?):		
Shale, red and gray with large, discoidal, hematite oolites	10	2210
Shale, gray with some plant remains and large, black, spore-like bodies occurring in the sample at 2260 feet	74	2284
Devonian system:		
Limestone, light gray to brownish gray, very fine-grained, slightly dolomitic, pyritic and fossiliferous. A slightly oolitic zone occurs at 2315 feet	36	2320
Limestone, brown, dense to almost lithographic, slightly pyritic	40	2360
Dolomite, light brown, finely crystalline, compact, slightly porous and with limestone, as above	10	2370
No sample	3	2373
Dolomite (core, 2373-2378 feet), light gray to brownish gray, very fine-grained to very finely crystalline, very compact and hard with no porosity	5	2378
No samples	2	2380
Limestone, gray to brown, lithographic, dolomitic	10	2390

	Thickness, feet	Depth, feet
Dolomite, brown, finely to medium crystalline, compact with some gray, dolocastic shale and brown, crystalline, quartzose chert	25	2415
Dolomite, dark brown, sucrose, very pyritic with spongy brown shale	30	2445
Dolomite, as above, with also some gray, sucrose dolomite and some brown, mottled and speckled chert ..	10	2455
Dolomite, brown and gray	10	2465
Dolomite, dark brown, fine-grained to finely crystalline with small amounts of white chert, pale green shale and brown, crystalline quartz	15	2480
Dolomite, gray, grading into a brown, more coarsely crystalline variety at 2495 feet. This sample also contains small amounts of green shale and blue-gray chert rosettes	15	2495
Dolomite, light tan, finely crystalline, compact and even grained with a small amount of blue-gray chert ..	52	2547
Dolomite, white, crystalline, sandy, cherty	24	2571

NOTE: The circulation in the well was lost at 2555 feet. In measuring hole, the total depth was found to be 2571 feet. 5 3/16 inch pipe was set at 2541 feet. The hole was cored from 2571-2574 feet with no recovery.

Chert, white, dolomitic	19	2590
Dolomite, light to very dark brown with blue, rough, porous chert, and some rounded and frosted grains of sand and some pyrite	14	2604
Dolomite, very dark brown, finely crystalline, vuggy with a very small amount of sand	4	2608
Dolomite, light brown, finely crystalline and even textured, slightly vuggy with some quartzose chert and very small amount of sand	4	2612
Dolomite, white to light gray and sometimes brown, finely crystalline, slightly vuggy with some crystalline quartz and small amounts of rounded, frosted sand grains, especially in the basal portion	14	2626
Silurian system:		
Dolomite, white to light blue, porous	10	2636
Dolomite, brown, finely crystalline	12	2648
Dolomite, light gray to white, finely crystalline, porous	39	2687

NOTE: Circulation was lost but recovered circulation at 2685 feet.

Dolomite, light gray to light grayish-blue, finely crystalline, somewhat compact, generally porous, with dolomite lined vugs	91	2778
Dolomite, bluish to gray, finely crystalline, compact with white porcelain-like chert	18	2796
Ordovician system:		
Maquoketa formation:		
Shale, light green	9	2805
Shale, light green with brown, fine-grained dolomite with white chert in alternating beds below 2817 feet	32	2837
Dolomite, dark gray, fine-grained, very argillaceous with some chert and green shale	5	2842
Fernvale formation ("Viola"):		
Dolomite, white to dark bluish, crystalline, porous, pyritic with included spots of green shale and some blue-gray, fossiliferous chert	10	2852
Kimmswick formation:		
Dolomite, white to light gray, fine-grained to finely crystalline with white to slightly brownish, hard, smooth to rough porous chert	10	2862, T.D.

RECENT DRILLING

in

NORTHWESTERN MISSOURI

By

FRANK C. GREENE

REPORT OF INVESTIGATIONS NO. 1

1945

EDWARD L. CLARK, *Director and State Geologist*

MISSOURI GEOLOGICAL SURVEY AND
WATER RESOURCES

ROLLA, MISSOURI